

9. THE RECORD (?) SALT WATER CROCODILE (*CROCODYLUS POROSUS* SCHNEIDER)

In January 1973, while on a survey of the status of the Estuarine Crocodile in the Bhitara Kanika Island area of Orissa, off the Chandbali Coast (*c* 20° 47'N ; 86°59'E) we noticed a large crocodile skull in the Palace of the Raja of Kanika at Chandbali. The skull measured 1 metre from tip of snout to occiput and the ratio of skull length to total length generally being 1:7 in this species, the animal when alive would have measured approximately 7 metres (*c.* 23 ft). According to the Raja of Kanika :

' This crocodile was about 23 to 24 ft. and was known as *Kalia*. It was very dark skinned. It was very notorious. It had a range of 10 miles in the Dhamra river. It eluded Shikaris for about 50 years. My grandfather, my father's elder brother and my father tried to shoot it. Nobody succeeded. The story goes that it was shot by the Captain of a ship which was on its run from Chandbali to Calcutta. Previously small coasting tramps had regular sailing between Chandbali and Calcutta. The crocodile after being hit and wounded went into the bank where there was a lot of reed and dry grass. The villagers set fire to the grass and the crocodile died. This crocodile was well known to every boatman and every villager.'

The Raja has also given us some interesting information on the Crocodiles of the area which we quote

In Bhitara Kanika island one could see 30 to 40 crocodiles and if a shooting party went round they could come back with 15 to 20 crocodiles mostly juveniles. We once shot 3 big crocodiles which were 16-footers. This 16 to 18 ft. crocodiles are the standard full grown crocodiles which were found in fairly large numbers. Those which were slightly bigger than these had definitely marked territories about 6 to 8 miles in a reach of a particular river. One may find one big crocodile who will be the monarch of that territory and it will soon become well-known and notorious causing danger to the lives of cattle and human beings specially the cattle. When I was a boy, it was said to be dangerous to wash vegetables, rice etc. by dipping the baskets overboard in the river. It was also dangerous to loiter or stand on the bank near the water specially if the bank is gradually sloping to the water because even if you are 2 or 3 feet from the water, the crocodile will rush with such velocity that you will be caught and the water brought up the bank by the backwash you will lose your balance. They aim at their prey from a great distance may be several hundred feet and dive and come up may be few inches from the target. I had once this experience. I was scanning the river all around to locate a crocodile which had been floating down the river a minute or two before and had gone under water. To my surprise it came up two or three feet from my feet on the river bank. I was saved as there were some formidable stump of the thick mangrove forest after the tops were cut to make a

clearing rising above the water like a fence between me and the crocodile. It could never had passed through this barrier. The stumps were about 3 to 4 ft. in height. I saw the head of the crocodile for a second or two. The hissing noise of the deep breathing of the crocodile made me look near my feet on the other side of the fence. While I was looking at the river the crocodile had come close to me and I had remained unaware. I was told that this crocodile was 27 ft. It was killed by some East Bengal trappers who used harpoon, torch light and guns for killing such crocodiles for the skin. This poaching is still going on, but as the crocodiles are few now, they do not attract many of these poachers nowadays.

The island of Bhitari Kanika was in the past a sanctuary for the Rajas of Kanika in times of stress. The deep channels surrounding it and its impenetrable forest made it a perfect hide-out. The Rajas in the settled years of this century had converted it into a wildlife reserve and had introduced Sambar and Chital. The fine mangrove forests on the Island are being rapidly removed especially from the side of the western silted channel. The forest on the mainland opposite the east face of the island is also being cut down. There are no forests on other mainland areas opposite the Island.

In our trips along the creeks leading into the Island we were shown several well used crocodile paths leading to belts of thick undergrowth through which the animals had tunneled in. They are said to stay in this cover. The crocodile that we saw in Shivadri Creek had rushed into the water from one such lair. The presence of juvenile crocodiles probably 3 to 5 months old in the creeks of Bhitari Kanika suggests that this uninhabited Islands is used for nesting by the crocodile. The local forest guards some stationed for many years in the area believe that the crocodiles go up the creeks to lay eggs and that eggs are laid within the forests, but none of the forests guards nor the local people of whom we enquired, have seen the nest or the eggs of the crocodile. However hatchlings have been caught during the rainy season from the heads of the creeks deep within the Island.

During our stay we saw only ten crocodiles (4 adults and 6 juveniles) in an area where they were said to be once abundant and are still considered to be fairly numerous. One of the reasons for the small number seen is probably the large number of country boats loading wood from the bank opposite to the Island and the disturbance that resulted. The areas where they are usually seen sunning themselves at low tide had been abandoned along the main eastern channel.

In a very informative little booklet entitled 'The coast and Tidal Regions of Orissa (Their problem with an approach to Regional planning)' the Raja of Kanika, Shri S. N. Bhanja Deo, speaks of the wild

life position in former years especially of the blackbuck herds seen commonly along the sea coast which have now become extinct. The position of wild life has deteriorated and there is no doubt that the crocodiles in the Bhitara Kanika area are also rapidly on the decline and if present conditions persist we do not expect them to last beyond another decade.

We believe there are two main reasons for the decline, habitat destruction and poaching. The estuarine forest composed mainly of mangroves, *Avicennia officinalis*, *A. alba*, *Sonneratia apetala*, *Rhizophora mucronata*, *R. caudalaria*, *Ceriops roxburghiana* and littoral species such as *Hibiscus tiliaceus*, *Xylocarpus obovatus*, *Excoecaria agallocha*, *Thespesia populnea*, *Strychnos nux-vomica* and others are, if timber-bearing, removed for firewood. Wood felling was the major forestry activity in the Bhitara Kanika area during our visit and from the quantity that was being removed in large country boats it was evident that the forests of the mainland to the east and north of the Island would not last long. The forest on the Island, especially that on the west are being surreptitiously removed as they are accessible from across the shallow creek.

The estuarine forest is essential for the crocodile as it provides cover and more important, nesting facility. Removal of the forest would mean automatic extinction of the crocodile.

Poaching directly affects the breeding potential of the population as the large adults are selectively removed. Animals over 4 metres in length are now rare. Crocodiles which were well known in particular localities and used to be shown to visitors have been poached. The method used is harpooning at night when the animals lie out on mudbanks. The poacher shines a powerful torch from a boat on the crocodile lying ashore and the animal instead of escaping into the water keeps moving inland away from the light source making it easy to approach and harpoon and to later recover it from the water. There is very little chance of saving the large crocodiles as long as trade is permitted in crocodile artifacts within the country. Export of crocodile leather is prohibited but not material made out of crocodile leather.

The crocodiles of Bhitara Kanika are perhaps the only remaining representatives of the salt water crocodiles (*Crocodylus porosus*) left in the peninsular area of India. The reason they have managed to exist so far is probably because the area is very poorly developed. To permit this endangered species to continue to exist in the area which has little potential for use by man, it is only necessary to have some minimal management procedures put into effect. The following recommendations may help :

- (1) The mangrove forests of Bhitara Kanika Island and surrounding areas should be retained. This would not only help to

preserve the crocodile but also act as a buffer to save agricultural lands lying to their west from the effect of the severe cyclonic storms which periodically ravage the area.

- (2) The Bhitarkanika Island and the surrounding areas should be declared a sanctuary and left inviolate so that the crocodile's breeding areas are undisturbed.
- (3) Trade in any form in crocodile skin should be prohibited by the State and Central Governments.

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10. NOTE ON *CRISTICEPS HALEI* DAY, 1888 (PISCES : CLINIDAE) A JUNIOR SYNONYM OF *SPRINGERATUS* *XANTHOSOMA* (BLEEKER), 1857

Bleeker (1857) first described *Clinus xanthosoma* from Java. Later Günther (1861), Herre (1936, 1939, 1953) and de Beaufort (1951) described it as *Cristiceps xanthosoma* from East Indies and Philippines. Day (1888) recorded a new clinid fish *Cristiceps halei* from Colombo. Since Day (1889) *C. halei* has not been recorded and the type specimen of the species is also not traceable. Shen (1971) recorded it from Philippine and Formosa and created a new genus *Springeratus* for *Clinus xanthosoma* Bleeker.